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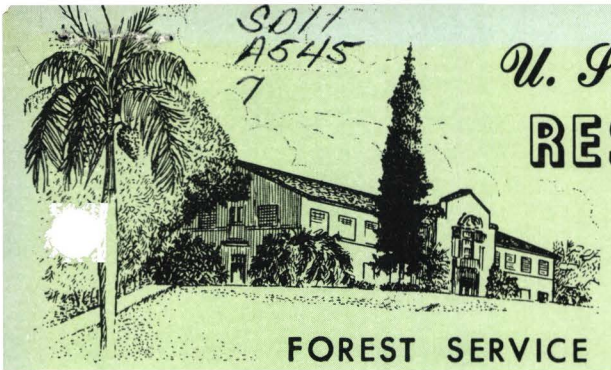

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RESEARCH NOTE NO. ITF 7

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ROOT PRUNING OF MAHOGANY NURSERY STOCK

By
R. W. Nobles and C. B. Briscoe

Summary

Root pruning had no effect on growth or survival of either young or held-over mahogany nursery stock.

Potted mahogany seedlings may be held in the nursery an extra year or more without reducing either growth or survival following outplanting. Growth may be slightly better for the older stock.

Resumen

En Santa Cruz, Islas Vírgenes, los arbolitos de caoba en potes se mantienen a veces en el vivero un año adicional o más después de la edad normal de siembra, la cual es de 7 a 9 meses. Por lo regular esto resulta en una masa de raíces que dan la vuelta al pote 2 ó 3 veces.

Para determinar si el desarrollo de los arbolitos es restringido por esta masa de raíces, se plantó caoba de hoja grande de 7 y 17 meses y caoba de hoja pequeña de 7, 12 y 30 meses con todas las raíces visibles podadas y sin podar.

La poda de raíces no tuvo efecto alguno en el crecimiento o la supervivencia de los arbolitos de caoba jóvenes ni de aquellos que se mantienen por más tiempo en el vivero.

Los arbolitos de caoba en potes pueden mantenerse un año adicional o más en el vivero sin reducir el creci-

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miento o la supervivencia después de trasplantados. El crecimiento puede que sea un poco mejor para los arbolitos más viejos.

All mahogany nursery stock in St. Croix, Virgin Islands, is potted in order to assure good field survival under the dry conditions which often prevail at planting time in the Virgin Islands. Sometimes, because of weather conditions and inability of landowners to plant as planned, seedlings remain in the rigid plastic, 15-centimeter (6-inch) pots for 2 years. Usually, this results in seedlings with a mass of roots circling the bottom of the pot two or three times.

In 1963 a study was initiated with West Indies mahogany (Swietenia mahagoni) and Honduras mahogany (S. macrophylla) to determine if pruning this root mass would have any effect on survival or height growth in the field. Each seedling was removed from its pot with roots and soil intact, all visible roots were cut off with a hand pruner, then the seedling with ball of earth was returned to the pot for transporting to the field.

Five seedling types were planted:

Species	Age (months)
Swietenia mahagoni Jacq.	7
	17
	30
Swietenia macrophylla King	7
	17

Each plot contained 10 rows, and each row had one root-pruned and one unpruned tree of the five seedling types, a total of 10 trees per row.

Plots were established on Estate Thomas Experimental Forest and on Estate Jolly Hill. Extremely high mortality following inadequate maintenance and severe drought eliminated the plot at Jolly Hill.

At Estate Thomas Experimental Forest there was no difference in 2-year mean height growth between pruned and unpruned stock, Table 1.

For Honduras mahogany only, pruned stock of 17-month old plants grew slightly faster on the average than unpruned; for 7-month

old plants the reverse was true. In both cases, the faster growth was made by the stock which was larger at the time of planting, and it seems probable that the differences in growth were associated with seedling size rather than pruning treatment.

More important is the evidence that retaining planting stock in the nursery an extra year --or even two years, for West Indies-- had no adverse effect; on the contrary, growth was improved slightly.

Survival also was not affected by either pruning or time in nursery. Pruning did, apparently, reduce survival slightly, but the difference was not statistically significant.

Table 1.--Growth and survival of pruned and unpruned mahogany nursery stock

	Age at Pruning	Height at Planting		2-Year Height Growth		Survival	
		Pruned	Unpruned	Pruned	Unpruned	Pruned	Unpruned
	(mos.)	(meters)		(meters)		(percent)	
S. mahagoni	30	0.9	0.8	1.6	1.6	100	100
	17	0.6	0.8	1.5	1.5	90	100
	7	0.7	0.7	1.2	1.2	90	100
S. macrophylla	17	0.4	0.3	0.7	0.5	70	70
	7	0.3	0.4	0.5	0.6	60	90
Average		0.6	0.6	1.1	1.1	82	92